

100

FIG. 1

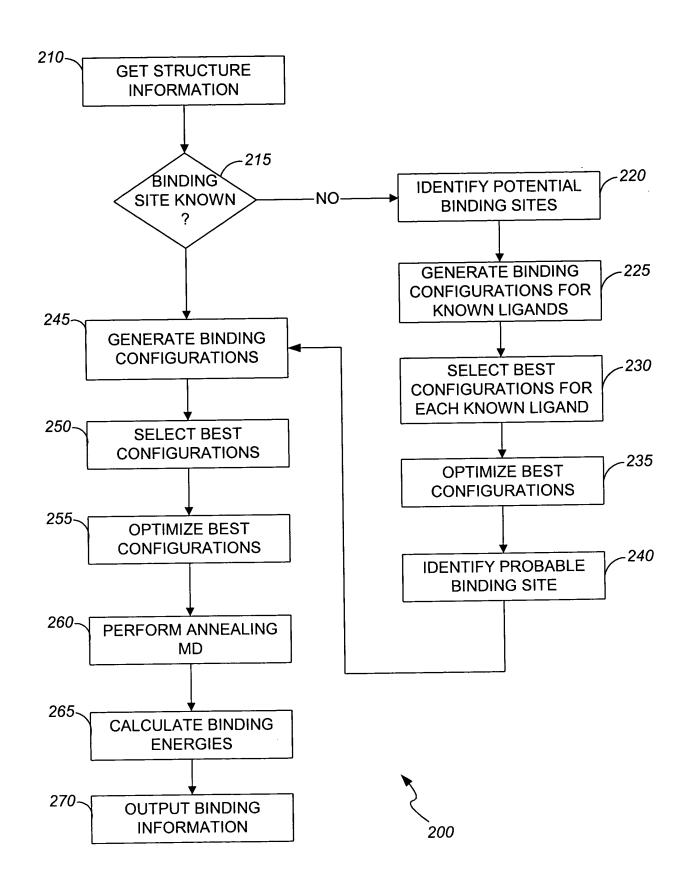


FIG. 2

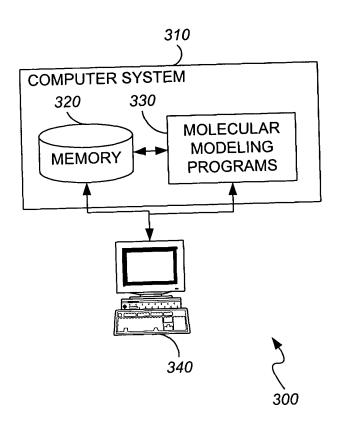


FIG. 3

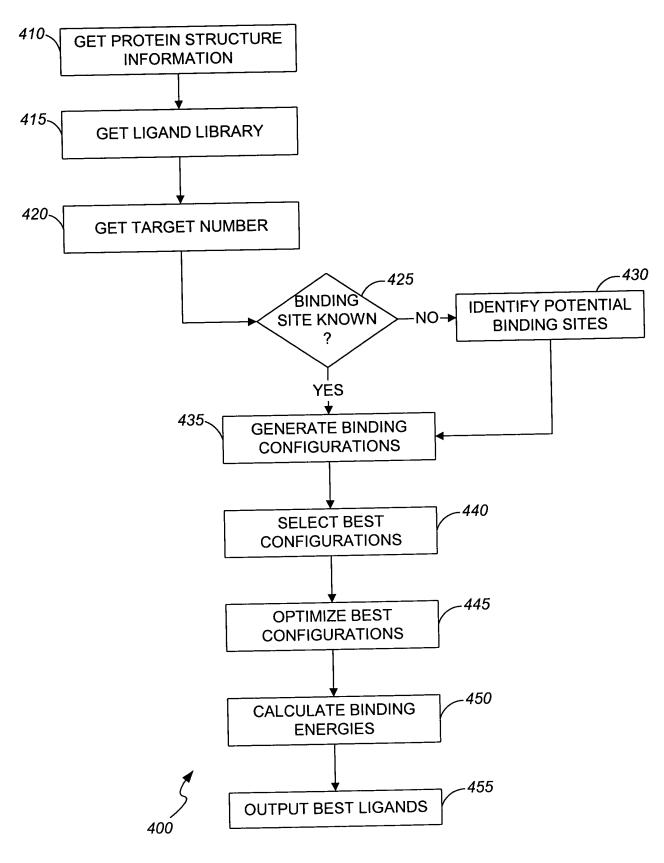


FIG. 4

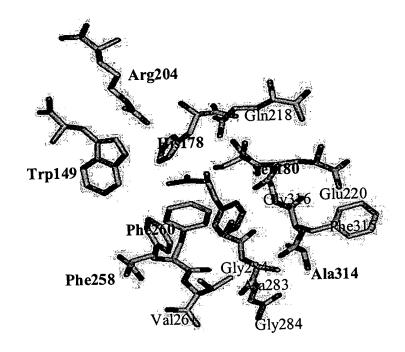


FIG. 5

FIG. 6

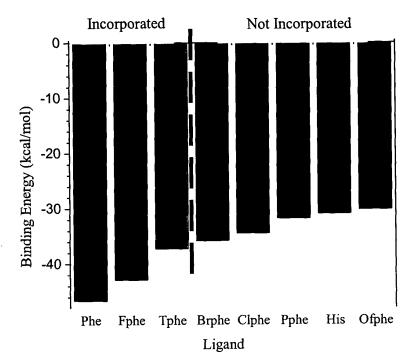


FIG. 7

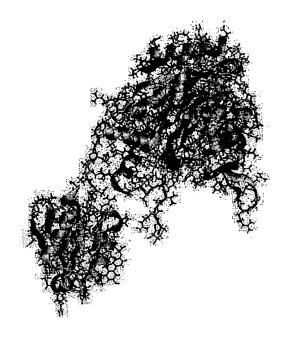
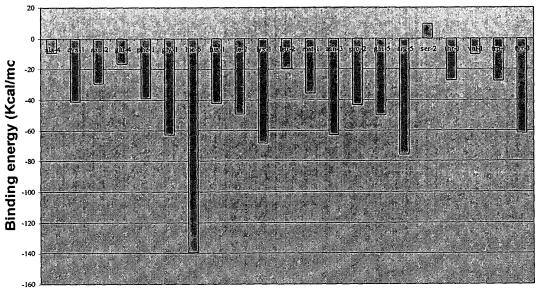


FIG. 8

## Binding energies of all 20 aa to hisRS



**Amino Acid** 

FIG. 9

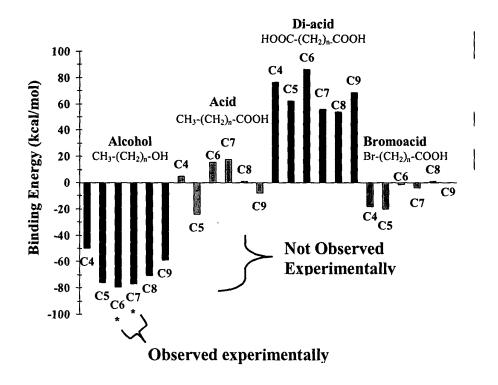


FIG. 10

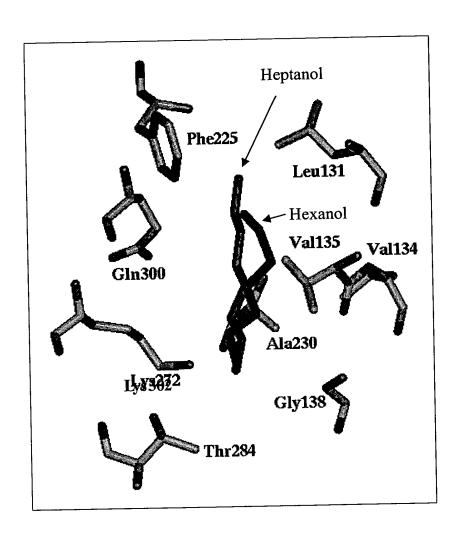


FIG. 11

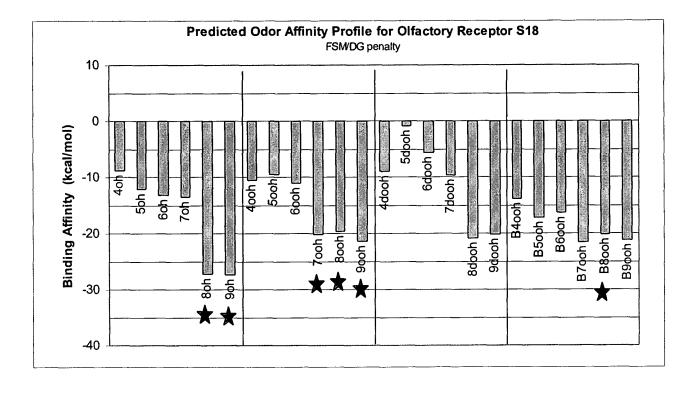


FIG. 12

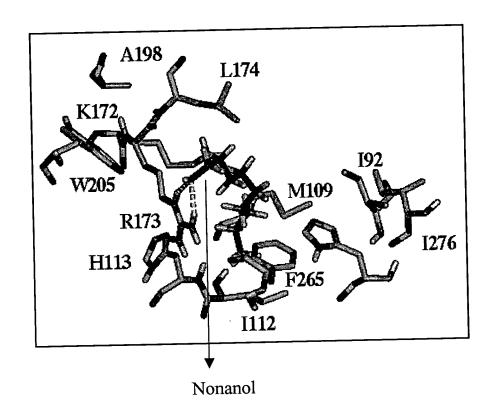


FIG. 13

## Docked cis-retinal (orange) X exp. Retinal (green)

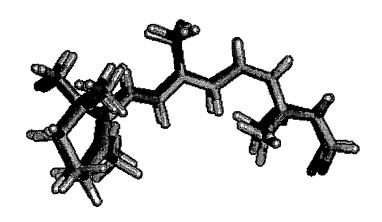


FIG. 14